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ABSTRACT

A 21-item group-administered rating scale was designed to measure elementary school students' sex-stereotyped attitudes about adult occupations. The students responded to items by designating who could, as well as who should fill certain occupations. By choosing from five responses (only women, more women than men, about the same number of women and men, more men than women, and only men), which are illustrated pictorially on the instruments' answer sheet, students rated each occupation from very sex-typed through moderately sex-typed to sex-neutral. Test items and administration directions are appended. The instrument includes a preliminary language lesson to ensure that children have been exposed to the difference in meaning between the words can, should, and is. Scoring formulas are explained and the internal consistency, stability, and validity of the instrument are briefly discussed. The research conducted on the instrument has shown that students' attitudes toward occupations can be changed through the use of sex-role reversed reading materials; that students' "should" responses are more stereotyped than their "can" responses; that responses to occupations are less stereotyped with age; that practice effects show students' attitudes become less stereotyped with each administration of the scale; and that, of the students measured, boys were more stereotyped than girls. (Author/JAC)

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CHILDREN'S SEX-STEREOTYPES OF ADULT OCCUPATIONS

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Candace Garrett Schau and Lynne Kahn
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PURPOSE

This group-administered rating scale is designed to measure elementary-school children's ability (who can be) and prescriptive (who should be) sex-stereotypes about adult occupations.

DESCRIPTION

Development. The instrument measures flexibility in children's stereotypes. Many scales force children to choose between sex-typed responses (e.g., "women" or "men"), thus measuring their knowledge of cultural stereotypes. Our scale allows the children to rate each occupation on a scale ranging from very sex-typed (i.e., "only women" or "only men") through moderately sex-typed (i.e., "more women than men" or "more men than women") to sex-neutral (i.e., "about the same number of women and men"). This type of format encourages children to choose the response that most closely matches their actual attitudes, rather than their knowledge.

The initial version of the instrument consisted of 40 jobs chosen from the SRA Occupation Kit (1964). These jobs represented three levels of educational requirements (high school, post-high school, or college) and three levels of sex-typing in our current culture (filled by at least 75% women, by at least 75% men, or by both women and men). The initial version was then used with 355 elementary-school children in grades 1, 3, and 5.

Based on this study, the instrument was reduced to the current scale of 21 occupations. These jobs were chosen to represent seven jobs that the children had stereotyped as masculine, seven feminine, and seven neutral

(see Table 1). Actually, the children stereotyped only five jobs as feminine so we added two others that we thought children would stereotype as feminine. We have used the current version of the instrument with over 900 children in four different Indiana locations. Other researchers have used the scale in other parts of the country.

Administration and Format. The scale can be used individually or in groups. We have used it successfully in groups as large as 30 children. With younger children or groups larger than 15, several adults should assist the administrator. Half of the adults involved should be female and half male with the administrators representing several different ethnic groups. A female should give half of the instrument and a male the other half.

The instrument itself consists of three parts. The first is a language lesson to ensure that the children have been exposed to the difference in meanings among "can," "should," and "is." The second part consists of directions for the instrument and examples. We use a large poster that resembles one page from the children's answer sheet to help in giving the directions. The third part is the instrument itself. To measure both "can" and "should" stereotypes, the administrator goes through the jobs twice, once for "can" and once for "should." The order of "can" and "should" does not make a difference, so to measure both on the same group of children, you must balance for order. The easiest way to do this, if it is practical, is to split the girls and boys from each grade into two groups to correspond with order. Then, the administrator can read the job description as well as the actual question involving "can" and "should." This procedure is the simplest for the children to follow.

The administration time varies depending on the age and size of the group of children and on whether you ask for both "can" and "should" responses. It takes about 30 minutes to go through the directions and the instrument asking for one type of stereotype with a group of 30 first- or second-graders. For third-graders and above, administration takes about 20 minutes. To measure the other type of stereotype, about 15 additional minutes are necessary regardless of the age of the group.

Scoring. Assign the following numerical values to each possible response: "only women" = 1

"more women than men" = 2

"about the same number
of women and men" = 3

"more men than women" = 4

"only men" = 5

A child can be given several different scores, depending on the purpose of using the instrument. For example:

1. Each child can be given three scores, obtained by summing the ratings across masculine jobs, across feminine jobs, and across neutral jobs. Each job's sex-typing can be determined either from the children's own responses (e.g., a job is considered as feminine if the children's average score on that job is 2 or below) or from Census data (e.g., a job is feminine if more than 75% of the people performing it are women).

2. Each child can be given a total stereotyping score. This score can be obtained in either of two ways. The first is to reverse the ratings of all jobs that the child rates above 3. Thus, responses of 1, 2, and 3 remain as they are, but a 4 becomes a 2 (since 2 now stands for "moderately sex-typed") and a 5 becomes a 1 ("extremely sex-typed"). The other method is to reverse the

ratings of all jobs that the Census shows are filled by more than 50% men. In either case, all of the new ratings, reversed and non-reversed, are summed to give each child a total score for stereotyping.

3. The items can be used individually in a multivariate analysis to test the effects of materials that were designed to change attitudes concerning specific occupations.

Our preference is to use the children's own stereotypes as the standard, rather than Census data, since children's attitudes often do not match either reality or adults' attitudes.

RELIABILITY

Internal Consistency. For the current version of the scale, coefficient alphas in our studies are consistently in the .90s for both "can" and "should" responses.

Stability. A shortened version of the original 40-item instrument was readministered at the end of one month to 144 children from the sample. The means from this subsample, pooled across sex and grade, were compared to the means from the first testing using a Wilcoxon matched-pairs signed rank test. The means were stable over time ($T = 95$, $N = 20$, $p < .05$). However, 19 of the 20 jobs were somewhat less stereotyped on the retest, even though the effect was not statistically significant. This effect could be due to at least two possible sources: regression toward the mean and/or a sensitizing effect of the instrument.

Validity. The relationship between the children's "can" stereotypes and reality as measured by Census data was calculated by correlating the children's mean rating of each of the occupations listed in the Census with the percentage of men who engaged in that occupation (U.S. Bureau of the Census 1973, table

221). The resulting correlation was 0.95 ($p < .001$). Thus, the children's ordering of the occupations matched reality.

We evaluated the use of a five-point pictorial rating scale by conducting a pilot study with 185 elementary-school children. We used an instrument of the same form as our scale, but the items had concrete referents and correct answers. The results indicated that the children were quite accurate in their answers. When differences between grades did exist, first-graders were the least accurate. Their errors tended to be either random or toward the middle of the scale (i.e., the neutral category). Results from this scale should be interpreted with this source of error variance in mind.

SUMMARY OF RESEARCH RESULTS USING THIS SCALE

In general, results from studies that have used this instrument have shown that:

1. Children's attitudes toward occupations, as measured by this scale, can be changed through the use of sex-role-reversed reading materials;
2. Children's responses to almost all occupations are less stereotyped with age;
3. Children's "should" responses are more stereotyped than their "can" responses;
4. There are practice effects with use of the scale such that children's attitudes become less stereotyped with each administration of the scale;
5. When children respond to "can" first and then "should," both sets of responses are more stereotyped than when they respond to "should" first and then "can;" and
6. There are sex differences in the children's responses for about half of the children we have measured, with boys more stereotyped than girls.

FOR MORE INFORMATION ON THE SCALE AND RESEARCH RESULTS, SEE

C. Schau Garrett, P.L. Ein, & L. Tremaine. The development of gender-stereotyping of adult occupations in elementary-school children. Child Development, 1977, 48, 507-512.

C. Garrett Schau, & L. Kahn. Broadening children's stereotypes about sex-requirements for adult occupations: a small grant intervention strategy. Final Report. Women's Educational Equity Act Program, Office of Education, 1978.

C. Garrett Schau, L. Kahn, & L. Tremaine. Effects of stories on elementary-school children's gender-stereotyped attitudes toward adult occupations. Unpublished paper, University of New Mexico, Albuquerque, New Mexico, 1978.

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Science Research Associates, Inc. Junior Occupational Briefs. Palo Alto, California: Author, 1964.

U.S. Bureau of the Census. Census of population: 1970. Vol. 1, Characteristics of the population. Washington, DC: Government Printing Office, 1973.

Table 1. Children's initial sex-typing of the occupations that were used in the current scale.

Female-stereotyped Jobs	Sex-neutral Jobs	Male-stereotyped Jobs
Sewing Machine Operators	Grade School Teachers	Fire Fighters
Nurses	Store Salespeople	Airplane Pilots
Ballet Dancers*	Elevator Operators	Train Engineers
Librarians	Mail Carriers	Carpenters
House Cleaners*	Writers	Plumbers
Secretaries	Restaurant Cooks	Football Coaches
Airplane Attendants	Bus Drivers	Ship Captain

*These are the two jobs we added to the instrument to bring the total number of female-typed jobs to seven.

Part I:

Can-Is-Should Language Lesson

Hi. I am _____ and this is _____. We need your help. But first, let's do a language lesson about the words "can," "should," and "is" (write on blackboard in capital letters).

This is a tall tree (draw). This is Johnny/Janie, who is five years old (draw).

Is Johnny/Janie climbing in the tree? No.

Can Johnny/Janie climb into it? That means, does she/he have the ability to? Yes, if she/he wants to.

Should Johnny/Janie climb into the tree and touch the nest?

That means, is it a good idea for him/her to do that? No.

Why?

Let's try another.

When you are at school for lunch, do you brush your teeth after eating? No.

Can you brush your teeth after eating lunch at school? No, unless you have a toothbrush.

Should you brush your teeth after eating lunch at school?

Yes.

Here's another.

Do you throw snowballs at cars on a summer's day? No.

Can you throw snowballs at cars on a summer's day? No.

Should you throw snowballs at cars on a summer's day? No.

So "is" means that in real life a person does the activity. (Is Johnny/Janie climbing the tree? No. Do you throw snowballs at cars on a summer's day? No.)

"Can" means that a person has the ability or is able to learn how to do an activity, that a person knows how and is able to do the activity if the person wants to. (Johnny/Janie can climb the tree. You can't brush your teeth at school unless you have a toothbrush.)

"Should" means something else. "Should" asks if you think it is a good idea for the person to do that activity. (Should Johnny/Janie climb the tree to the nest? No. Should you throw snowballs at cars on a summer's day? No.)

Part II:

Directions for Occupation Instrument

Write or print your name on the front page of your booklet next to the space marked "Name." On the same page, if you are a boy, put an X on the boy's face. Like this (show on poster). If you are a girl, put an X on the girl's face, like this (show on poster). Put a _____ in the space marked "Grade."

Today we are going to ask you questions about jobs that adults do. I will read a definition of each job. After you hear the definition, read the question on your answer sheet about the job. The question will ask either "Who do you think CAN do the job" or "Who do you think SHOULD do the job." "Can" or "should" will be in all capital letters and underlined. Raise your hand if you have questions. This is not a test; we just want to know what you think about each job.

Is this a man's head or a woman's head (hold up picture)? Yes, it is a woman's head. Is this a man's head or a woman's head? Yes, it is a man's head. So this one stands for women and this one for men.

The possible answers to each question are always the same. There are five answers that you can choose from (show on poster). The first is "only women." If that is your answer, put an X on the box with the four women's faces that says "only women." The second answer you can choose is "more women than men." If this is your answer, mark the box with three women's faces and one man's face that contains the words "more women than men." The third answer is "about the same number of women and men." If this is your answer, mark the box with two women's faces and two men's faces that contains the words "about the same number of women and men." The fourth possible

answer is "more men than women." If this is your answer, mark the box that has three men's faces and one woman's face that says "more men than women." The last answer is "only men." If you choose this one, mark the box that contains four men's faces and says "only men."

Let's do a few examples out loud.

1st & 2nd
grades
only

[Hold up the hand you use to write or print. Now, take the other hand]
[and put your finger down next to the A. This will help you keep your place.]

Look at the line of faces on the first page of your booklet next to the A (show on poster). This is an easy one. "Mothers are ladies who have children." Look at the question on your booklet. It says, "Who do you think CAN be mothers?" (Elicit response from class). Good. Only women can be mothers. Put an X on the box that shows four women's faces and says "only women" (show).

From now on, there are no correct or wrong answers; it is just your own idea that's important.

[Now put your finger next to B.] Look at example B. Cowhands are people who work on ranches where cattle are raised. The question asks, "Who do you think CAN be cowhands?" If you think that only men can be cowhands, mark the box with the four men's faces (show on poster). If you think that more men than women can be cowhands, mark the box with three men's faces and one woman's face. If you think that about the same number of men and women can be cowhands, mark the box with two men's faces and two women's faces. If you think that more women than men can be cowhands, mark the box with three women's faces and one man's face. If you think that only women can be cowhands, mark the box with four women's faces. I think that more men than women can be cowhands. Where should I make my mark? Here? Here? Here,

because there are three men's faces and one woman's face and it says "more men than women." What did you mark? Why? (Discuss the answers.)

Let's try example C. [On the same page of your booklet, put your finger next to the C (write on board).] College professors are people who teach students at college. Read the question. What does it say? "Who do you think SHOULD be college professors?" Mark the box with the faces that you think describes who SHOULD be college professors. All finished? Any questions? If you ever have questions, raise your hand and one of us will help you. Don't look at your neighbor's paper or talk to your neighbor.

Turn to page 2 [and put your finger next to the 1]. Don't say anything out loud; just mark your answer to the question on your answer sheet after I read about each job. I will tell you when to turn each page so we can all stay together.

Part III:

Occupation and Instrument

To the administrator: Read the number of the job and the job description. Then ask "Who do you think (can or should) be (job name)?" Go through all 21 jobs asking for either can or should stereotypes; then repeat all 21 asking for the other stereotypes.

1. Sewing machine operators are people who sew clothing on machines to sell to other people.
2. Fire fighters work at putting out fires.
3. Airplane pilots are people whose job is flying airplanes.
4. Grade school teachers are people who teach kindergarten or one of the first six grades.
5. Nurses help take care of people when they're hurt or sick.
6. Store salespeople work in shops or stores selling things to their customers.
7. Train engineers are people who are paid to drive trains.
8. Elevator operators are people who are paid to run elevators, taking people up and down in tall buildings.
9. Mail carriers bring mail to homes and businesses.
10. Ballet dancers are people who work performing for others by dancing gracefully to music.
11. Writers are people whose job is using written words to tell others about their thoughts and feelings. They write books, stories, plays, and poems.
12. Carpenters are people who make things out of wood to sell.
13. Librarians are people who work in libraries checking books in and out.
14. House cleaners are people who are paid to keep other people's houses clean.

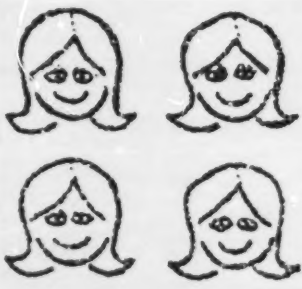
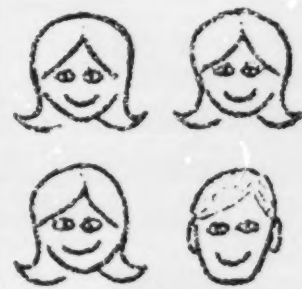
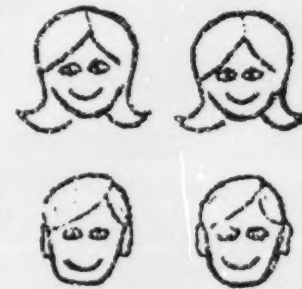
15. Secretaries are people who work in offices answering telephones, typing letters and papers, and greeting visitors to their offices.
16. Plumbers are people who fix pipes in houses and other buildings.
17. Football coaches are people who coach football teams.
18. Restaurant cooks are people who fix meals for the restaurant's customers.
19. Bus drivers are people who drive buses, collect tickets or money, and give directions and information to the passengers.
20. Ship captains are people who are in charge of large boats.
21. Airplane attendants work on airplanes serving food and drinks. They make sure the passengers are safe and comfortable.

Part IV:

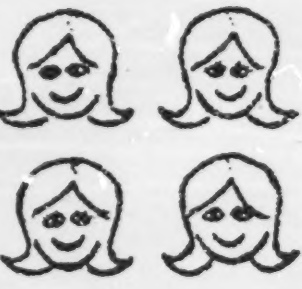
Example Pages From Answer Sheet

3. Who CAN be airplane pilots?

15

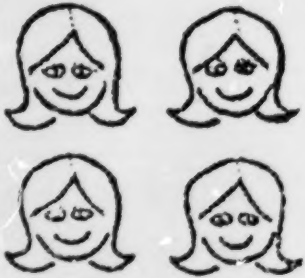
 ONLY WOMEN	 MORE WOMEN THAN MEN	 ABOUT THE SAME NUMBER OF WOMEN AND MEN	 MORE MEN THAN WOMEN	 ONLY MEN
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4. Who CAN be grade school teachers?

 ONLY WOMEN	 MORE WOMEN THAN MEN	 ABOUT THE SAME NUMBER OF WOMEN AND MEN	 MORE MEN THAN WOMEN	 ONLY MEN
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5. Who SHOULD be nurses?

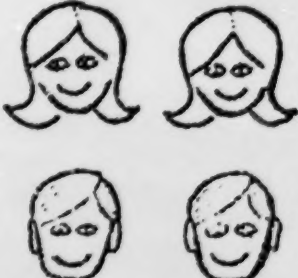
16



ONLY WOMEN



MORE WOMEN THAN MEN



ABOUT THE SAME NUMBER
OF WOMEN AND MEN



MORE MEN THAN WOMEN



ONLY MEN

6. Who SHOULD be store salespeople?



ONLY WOMEN



MORE WOMEN THAN MEN



ABOUT THE SAME NUMBER
OF WOMEN AND MEN



MORE MEN THAN WOMEN



ONLY MEN